



STATE OF WASHINGTON

DEPARTMENT OF AGRICULTURE

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DATE: August 28, 2003
FROM: Miles McEvoy, Organic Program Manager
TO: Organic Handling Operations
RE: Use of Chlorine in Post Harvest Handling of Organic Food Products

There have been a number of questions concerning the use of chlorine in organic handling operations. On August 22, 2003, I spoke with Arthur Neal at the National Organic Program to clarify the allowance for chlorine use in post harvest handling of organic products. He reiterated that the standard for using chlorine (sodium hypochlorite, calcium hypochlorite, and chlorine dioxide) in post harvest handling is that the residual chlorine levels in the discharge water must not exceed the Maximum Residual Disinfectant Level (MRDL) for chlorine materials. The MRDL is 4 mg/L for chlorine and 0.8 mg/L for chlorine dioxide. Levels of chlorine used in wash water, dump tanks, and rinse water may exceed the MRDL as long as the discharge water does not exceed the MRDL.

I have included additional information from the National Organic Program website. The website is located at <http://www.ams.usda.gov/nop/index.htm>

National Organic Program website – Questions and Answers section

Use of Chlorine in Organic Handling Operations - 7 C.F.R 205.601(a)(2), 205.603(a)(3), and 205.605(b)(9) provides for the use of chlorine materials as algicides, disinfectants and sanitizers in organic crop, livestock and handling operations.

The annotation on the use of chlorine materials restricts the residual chlorine levels in the water to the maximum residual disinfectant limit under the Safe Drinking Water Act. This limit is currently established by the Environmental Protection Agency (EPA) at 4 mg/L for chlorine. The National Organic Program has received a number of questions regarding the use of chlorine in certified operations and the sampling protocol to be used by accredited certifying agents (ACA) in monitoring the maximum residual disinfectant limit for chlorine materials. The following Q and A's are designed to clarify these issues.

Q. As an ACA, at what point in crop, livestock or handling operations should I monitor for the maximum residual disinfectant limit?

A. ACA's must monitor the discharge or effluent point to ensure that certified operators are meeting the 4 mg/L limit as set forth by the Safe Drinking Water Act.

Q. As a crop, livestock or handling operation, am I restricted to use chlorine at the maximum residual disinfectant limit specified under the Safe Drinking Water Act, currently 4 mg/L, at the beginning of the wash/rinse water cycle?

A. No. Levels of chlorine used to prepare water to be used to disinfect/sanitize tools, equipment, product or food contact surfaces may be higher than 4 mg/L and should be at levels sufficient to control microbial contaminants. Therefore, chlorine use at the beginning of the applicable water cycle in an organic operation is not limited to 4 mg/L.

Q. What is the "maximum residual disinfectant level?"

A. "Maximum residual disinfectant level" is a term defined by the Environmental Protection Agency (EPA) as the highest level of a disinfectant allowed in drinking water. This level is currently established by EPA at 4 mg/L for chlorine. Practically applied under the National Organic Standards, the term "maximum residual disinfectant level" refers to the chlorine level of the waste water at the discharge or effluent point.

National Organic Program rule

§ 205.601 Synthetic substances allowed for use in organic crop production.

In accordance with restrictions specified in this section, the following synthetic substances may be used in organic crop production:

- (a) As algicide, disinfectants, and sanitizer, including irrigation system cleaning systems
 - (1) Alcohols
 - (i) Ethanol
 - (ii) Isopropanol
 - (2) Chlorine materials - *Except*, That, residual chlorine levels in the water shall not exceed the maximum residual disinfectant limit under the Safe Drinking Water Act.
 - (i) Calcium hypochlorite
 - (ii) Chlorine dioxide
 - (iii) Sodium hypochlorite

§ 205.605 Nonagricultural (nonorganic) substances allowed as ingredients in or on processed products labeled as "organic" or "made with organic (specified ingredients or food group(s))."

The following nonagricultural substances may be used as ingredients in or on processed products labeled as "organic" or "made with organic (specified ingredients or food group(s))" only in accordance with any restrictions specified in this section.

(b) *Synthetics allowed:*

- (9) Chlorine materials - disinfecting and sanitizing food contact surfaces, *Except*, That, residual chlorine levels in the water shall not exceed the maximum residual disinfectant limit under the Safe Drinking Water Act.
 - (i) Calcium hypochlorite
 - (ii) Chlorine dioxide
 - (iii) Sodium hypochlorite